

WHAT IS CLAIMED IS:

1. A method comprising:
receiving a broadcast signal, wherein said broadcast signal contains a program and
5 wherein said program contains one or more interactive applications;
storing said program on a storage device;
initiating playback of said program from said storage device; and
launching a first interactive application of said one or more interactive
applications in response to detecting said first interactive application
10 during said playback of said program.
2. The method of claim 1 wherein said program is stored on said storage device as it
is received, wherein detecting said first interactive application comprises detecting said
first interactive application is available from an interactive application data stream of said
15 program during said playback.
3. The method of claim 1 wherein storing said program includes storing an
interactive application data stream of said program, wherein said storing of said data
stream comprises extracting from said program one or more data objects and storing said
data objects on said storage device as a set of files, wherein initiating playback of said
data stream comprises retrieving one or more of said set of files from said storage device
and wherein detecting said one of said one or more interactive applications comprises
comparing a validity range associated with said one of said one or more applications to a
current playback index and determining that said current playback index is within said
25 validity range.
4. A method comprising:

providing a program stored on a storage device, wherein said program contains an interactive application;

initiating playback of said program from said storage device;

launching said interactive application;

5 initiating a special play mode of said program; and

conveying a notification signal to said interactive application during said special play mode.

5. The method of claim 4 further comprising:

10 initiating a special play mode of said program wherein during said special play mode, a current playback index changes from a first value to a second value;

determining whether events affecting the state of said interactive application would have been encountered in a normal play mode between said first

15 value and said second value;

generating signals corresponding to said events; and

conveying said signals to said application.

6. The method of claim 5 wherein said signals are generated sequentially according
20 to the order of said corresponding events in a normal play mode.

7. The method of claim 4 wherein one or more of said notification signals are selected from the group consisting of: application kill signals; application launch signals; application pause signals; application resume signals; trick mode start notifications; trick
25 mode end notifications; seek notifications; module notifications; trigger notifications; and accelerated version notifications.

8. The method of claim 4 further comprising said interactive application receiving an indication of a current position in said program and setting the internal state of said interactive application to correspond to said current position.
- 5 9. The method of claim 8 wherein said application receives said indication of said current position in said program while said program is in said special play mode.
- 10 10. The method of claim 4 further comprising:
initiating a special play mode of said program;
conveying a kill signal to said interactive application in said program;
terminating said special play mode; and
launching an interactive application in response to detecting said interactive application is available.
- 15 11. The method of claim 4 further comprising said interactive application:
indicating to a receiver on which said interactive application is executing whether said interactive application is configured to operate when a special play mode is initiated;
notifying said interactive application of said special play mode in response to detecting said interactive application is configured to operate during said special play mode; and
terminating said interactive application when said special play mode is used in response to detecting said interactive application is not configured to operate during said special play mode.
- 20 25 12. The method of claim 4 further comprising:
broadcasting said program;
receiving said program; and
storing said program on said storage device.

13. A device comprising:
a receiver; and
a storage device coupled to said receiver; wherein said storage device is
5 configured to store a program data stream including one or more
interactive application data streams and to provide said program data
stream to said receiver for playback; and
wherein said receiver is configured to detect and launch said one or more
interactive applications.

10 14. The device of claim 13 wherein said receiver is configured to be coupled to an
interactive television system; wherein said receiver is configured to receive said program
data from said interactive television system; and wherein said receiver is configured to
store said program data in said storage device.

15 15. The device of claim 13 wherein said storage device is configured to store said
program data stream as it is received; wherein said receiver is configured to receive said
data stream and to determine when said one or more interactive applications are available
in said data stream; and wherein said receiver is configured to launch said one or more
interactive applications, in response to detecting said one or more interactive applications
20 are available.

16. The device of claim 13 wherein said storage device is configured to store said
program data stream as a set of files; wherein said receiver is configured to retrieve one of
said set of files containing interactive applications; wherein said receiver is configured to
25 compare validity ranges associated with said interactive applications to a current playback
index; and wherein said receiver is configured to launch ones of said interactive
applications for which said associated validity range includes said current playback index.

17. The device of claim 13 wherein said receiver is configured to play back said program using a special playback mode between a first playback index and a second playback index; wherein said receiver is configured to determine whether one or more events affecting the state of said program would be encountered in a normal playback mode between said first playback index and said second playback index; wherein if said one or more events would be encountered in said normal playback mode, said receiver is configured to generate one or more signals indicative of said one or more events and to provide said one or more signals to said program.
- 10 18. The device of claim 13 wherein said receiver is configured to receive a notification from a first interactive application of said one or more interactive applications indicating whether said first interactive application is configured to operate in special playback modes; wherein if said first interactive application is configured to operate in special playback modes, said receiver is configured to provide a notification of said special playback mode to said first interactive application when said special playback mode is used; and wherein if said first interactive application is not configured to operate in special playback modes, said receiver is configured to terminate said first interactive application when said special playback mode is used.
- 15 19. The device of claim 18 wherein when use of said special playback mode is stopped, said receiver is configured to restart said first interactive application.
20. The device of claim 19 wherein said receiver is configured to restart said first interactive application by extracting said first interactive application from a data stream.
- 25 21. The device of claim 13 wherein said receiver is configured to receive an indication from one of said one or more applications which indicates that a special playback mode can be used by said receiver.